

| REPORT DOCUMENTATION PAGE | | | | | Form Approved OMB No. 0704-0188 | |
|--|-------------|--------------------------|-------------------------------|--|---|--|
| <p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Service Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.</p> | | | | | | |
| 1. REPORT DATE (DD-MM-YYYY) 04/03/2018 | | 2. REPORT TYPE poster | | 3. DATES COVERED (From - To) 03/04/2018-03/08/2018 | | |
| 4. TITLE AND SUBTITLE En Route Care: Advancing Trauma Care through Handoffs (E-CATCH) – A Prospective Trial to Improve Handoff Communication, Patient Safety, and Anticipate the Need for Life-Saving Medical Interventions. | | | | 5a. CONTRACT NUMBER | | |
| | | | | 5b. GRANT NUMBER | | |
| | | | | 5c. PROGRAM ELEMENT NUMBER | | |
| 6. AUTHOR(S) Maddry, Joseph K, Maj | | | | 5d. PROJECT NUMBER | | |
| | | | | 5e. TASK NUMBER | | |
| | | | | 5f. WORK UNIT NUMBER | | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBASA-Lackland, TX 78236-9908 210-292-7141 | | | | 8. PERFORMING ORGANIZATION REPORT NUMBER 17684 | | |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBASA-Lackland, TX 78236-9908 210-292-7141 | | | | 10. SPONSOR/MONITOR'S ACRONYM(S) | | |
| | | | | 11. SPONSOR/MONITOR'S REPORT NUMBER(S) | | |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited. | | | | | | |
| 13. SUPPLEMENTARY NOTES Government Services Chapter of the American College of Emergency Physicians (GSACEP), Lake Tahoe, California, March 4-8, 2018 | | | | | | |
| 14. ABSTRACT | | | | | | |
| 15. SUBJECT TERMS | | | | | | |
| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES | 19a. NAME OF RESPONSIBLE PERSON Clarice Longoria | |
| a. REPORT | b. ABSTRACT | c. THIS PAGE | | | 19b. TELEPHONE NUMBER (Include area code) 210-268-2201 | |

En route Care: Advancing Trauma Care through Handoffs (E-CATCH)

A prospective trial to improve handoff communication, patient safety, and anticipate the need for life-saving medical interventions

Kimberly L. Medellin, BSN RN¹, Nicole M. Shults, BS¹, Sheila C. Savell PhD RN¹, Crystal A. Perez, BSN, RN¹, Alejandra G. Mora, MS¹, Xandria E. Gutierrez, BS¹, Jessie Fernandez, BS¹, Maj Joseph Maddry, MD^{1,2}

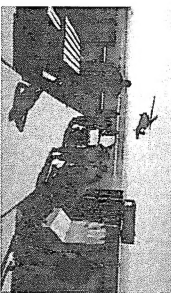
¹United States Air Force En route Care Research Center/59th MDW/ST – United States Army Institute of Surgical Research, JBSA, Ft. Sam Houston, TX ²Emergency Department, San Antonio Military Medical Center, Ft. Sam Houston, TX

Background

Hospital care is influenced by pre-hospital care and EMS patient handoff communication; however, handoff communication is often lacking. There is a need for definitive evidence regarding the effectiveness of handoff communication. We strove to characterize the care of patients transported by EMS to a single, military level 1 trauma center (SAMMC) and evaluate documentation as it impacts overall care.

Objective

Our aim was to determine which of the sixteen prehospital elements are communicated by EMS to trauma staff, and to identify which, if any, of these elements are associated with the need for life-saving interventions (LSI) within 24 hours of arrival to the trauma center.



Methods

- Data was abstracted from the medical records of patients transported by EMS and treated in the SAMMC Emergency Department.
- Data included the documentation provided by EMS, nursing report, call-in report, emergency room, and procedures done in the first 24 hours of care.
- Up to 2348 data entry fields for were collected for our study database.
- This is an interim, descriptive analysis of an ongoing study.

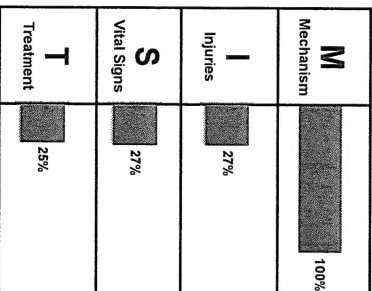


Figure 1: Percent Documentation per MIST component

| Table 1: Demographics, Injury, and Reports Reviewed | | | |
|---|-------------------|---------------------|--------------------|
| | Overall n=1002 | From Scene n=394 | Transfers n=608 |
| Age | 44.5 [28-64] | 41 [26-59] | 49 [29-69] |
| Gender (Male) | 70% | 74% | 67% |
| Injury | | | |
| Fall | 33% | 17% | 42% |
| MVC | 27% | 34% | 23% |
| Penetrating | 13% | 20% | 9% |
| Blunt | 11% | 7% | 14% |
| Other | 16% | 22% | 12% |
| Documentation Available | | | |
| EMS Report from Scene | 22% | 29% | 18% |
| Call-in Report | 93% | 94% | 92% |
| Nursing Report | 95% | - | 92% |
| Report from 1 st MTF | 59% | - | 35% |
| Transfer EMS Report | 43% | - | 10% |

Results

Table 2: Percent Documentation per Prehospital Element

| 16 Prehospital Elements associated with outcomes (assessed) | count (%) |
|---|-----------|
| Prehospital hypotension | 361 (92) |
| GCS Score | 341 (87) |
| Patient Age | 392 (99) |
| End tidal CO ₂ value | 8 (2) |
| Pulse rate | 360 (91) |
| Respiratory Rate | 337 (86) |
| Oxygen saturation | 289 (73) |
| Death of an occupant in the same compartment | 337 (86) |
| Blood loss in the field | 394 (100) |
| Mechanism of injury | 0 (100) |
| Extraction time | 365 (93) |
| Estimated crash speed | 4 (1) |
| Anatomic location of injury | 5 (1) |
| Preexisting disease | 20 (5) |
| Prehospital intubation | 375 (95) |
| Median Num. of Elements Documented per Record | 105 (27) |
| | 3 (1) |

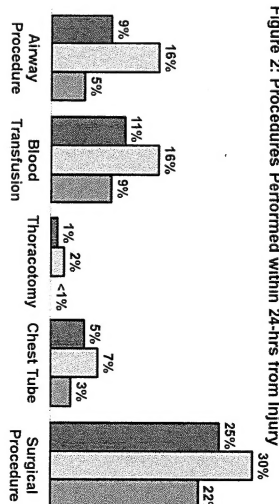


Figure 2: Procedures Performed within 24-hrs from Injury

- Surgical procedures and blood transfusions were associated with a decreased number of documented pre-hospital elements.
- Respiratory rate, extrication time, and anatomical location were associated (p<0.001) with having at least one LSI within 24 hours.
- Mortality rate for patients brought from scene was 5%, and <1% for patients transferred from another facility.

Limitations

- Data was collected retrospectively
- Subjectivity despite trained abstractors
- Data missing or unavailable

Conclusions

In this study, there was limited documentation reflective of care provided prior to arrival to the SAMMC ED. Three of the 16 prehospital elements were associated with having an LSI performed within 24 hours of injury.

Acknowledgements

DOD-Joint Program Committee (JPC6); Air Force En route Care Research Center Team, SAMMC Emergency Department; BAMC Trauma Registry

This study was conducted under a protocol reviewed and approved by the U.S. Army Medical Research and Materiel Command Institutional Review Board and in accordance with the approved protocol. The opinions or assertions contained herein are the private views of the author and are not to be construed as official or as reflecting the views of the Department of the Army, the Department of the Air Force, or Department of Defense.

Corresponding author: Joseph K. Maddry, mjm@mil.mil

